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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,627	09/26/2002	Mark Anthony Fernance Kendall	KEMP002	8277

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BOZICEVIC, FIELD & FRANCIS LLP
1900 UNIVERSITY AVENUE
SUITE 200
EAST PALO ALTO, CA 94303

EXAMINER

MAIORINO, ROZ

ART UNIT	PAPER NUMBER
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3763

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/031,627	Applicant(s) KENDALL ET AL.	
	Examiner Roz Maiorino	Art Unit 3763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 and 55-63 is/are pending in the application.
- 4a) Of the above claim(s) 1-53, 55-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-19, 56-63 are, drawn to method, classified in class 604, subclass 898.
- II. Claims 20-53, 55 are, drawn to apparatus, classified in class 604, subclass 68.

The inventions are distinct, each from the other because of the following reasons:

1. Inventions Group I and Group II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the apparatus in Group II is not restricted to method of use in Group I, Group II apparatus contains certain limitation such as a deriver chamber not discussed in Group I method, hence there are other methods the apparatus in Group I may be used.
2. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

**APPLICANT MUST SELECT A GROUP FROM SECTION 1 ABOVE AS WELL AS
ELECT A SPECIES FROM SECTION 3 BELOW.**

3. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species A- an air powered, disposable device and is shown schematically in Figure 5. The device could, however, be reusable and/or powered by a fluid other than air, for example helium, nitrogen or a mixture of gases no selection of gas can be used to the performance of the device. Different gases or gas mixtures provide different quasi-steady gas velocities in the same device and so the target particle velocity can be closely controlled by an appropriate driver gas selection.

Species B- As a farther alternative, the driver chamber 51 could be pre-charged with pressurized gas and the reservoir 55 omitted. In such an arrangement, the membrane 53 could be punctured mechanically to actuate the device.

Species C- in this case, the nature of the starting process is altered as is shown in Figure 6, where identical reference numerals correspond to similar features.

Species D- A further possibility for device operation occluded when the flow in region 3 has a Mach number of less than 1.

Species E- it has been found that the device is quite sensitive to the membrane opening 20 area. Thus, it is desirable then the membrane 53 when ruptured (or any other suitable closure when opened) should present an area substantially identical to the area of the duct section 52.

Species F- the driver chamber 51 could be constructed so as to have a larger area than the duct section 52. This is shown in Figure 9.

Species H- Another possible aspect of the invention to enhance particle mixing will now be described. Figure 10a shows a device having two membranes. The particles 58 are initially located between the two membranes in the defined chamber 51.

Species I- particle 58 could initially be located upstream of the upstream membrane 101. when the upstream membrane 101 ruptures, the gas flowing into the space between the membranes carries the particles 58 with it and mixing is thus effected to produce a cloud in the same way as described above.

Species J- A further possible particle entrainment approach will now be described with reference to Fig 11 a to 11e. Once again, the particles 58 are initially located between two membranes, however the upstream membrane 11 1 now has a higher rupture pressure than the downstream membrane 1 12 (see Figure 11a)

Species K- Figures 12a to 12c show stages in operation of an eighth embodiment of the invention designed to aid particle mixing.

Species L- figures 13a-13c

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no pending claims is considered generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim

is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roz Maiorino whose telephone number is 571- 272-4960. The examiner can normally be reached on 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nicholas Lucchesi can be reached on 571-272-4377. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RM

A handwritten signature, possibly reading 'RM', in black ink.A handwritten signature in black ink, appearing to read 'Nicholas D. Lucchesi'.

**NICHOLAS D. LUCCHESI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700**